Effective Health Care

Diabetes Control and Management in Chronic Kidney Disease (CKD) Prevention Nomination Summary Document

Results of Topic Selection Process & Next Steps

- The topic, *Diabetes Control and Management in Chronic Kidney Disease (CKD) Prevention* was found to be addressed by evidence-based clinical practice guideline titled *KDOQI Clinical Practice Guideline for Diabetes and CKD: 2012 Update* published in 2012 by the National Kidney Foundation. Given that the existing guideline covers this nomination, no further activity will be undertaken on this topic.
  - National Kidney Foundation. KDOQI clinical practice guideline for diabetes and CKD: 2012 update. Am J Kidney Dis, 2012; 60(5):850-86. http://www.kidney.org/professionals/kdoqi/guidelines_commentaries.cfm.

Topic Description

Nominator(s): Organization

Nomination Summary: The nominator is interested in the comparative effectiveness of type 2 diabetes control and management methods used to address the prevention and progression of chronic kidney disease (CKD).

Staff-Generated PICO
Key Question 1
Population(s): Patients with type 2 diabetes mellitus and CKD
Intervention(s): Intensive glucose control therapy and interventions to achieve a target glucose / HbA1c level including, but not limited to, dietary strategies, exercise, patient education, patient knowledge, improvement in treatment adherence, and more aggressive pharmacological approaches
Comparator(s): Conventional glucose control therapy and standard of care
Outcome(s): Progression of CKD as indicated by albuminuria and glomerular filtration rate (GFR) and the incidence of end-stage renal disease (ESRD)

Key Question 2
Population(s): Patients with type 2 diabetes mellitus and CKD
Intervention(s): Intensive glucose control therapy and interventions to achieve a target glucose / HbA1c level including, but not limited to, dietary strategies, exercise, patient education, patient knowledge, improvement in treatment adherence, and more aggressive pharmacological approaches
Comparator(s): Conventional glucose control therapy and standard of care

Outcome(s): Complications of CKD, including ESRD, mortality, and cardiovascular complications

Key Questions from Nominator: The original scope of the nomination included two sets of questions. The first set focused on how to prevent CKD in patients with diabetes through various diabetes control and management strategies. The second set focused on how to prevent the progression and complications of existing CKD in patients with diabetes and CKD through various diabetes control and management strategies. Based on a conversation with the nominator, the below key questions were identified:

1. Among diabetic patients with CKD, what is the optimal diabetes control target (HbA1c, glucose) to slow progression of CKD?
2. Among diabetic patients with CKD, what is the optimal diabetes control target (HbA1c, glucose) to prevent complications of CKD?

Considerations

- The topic meets EHC Program appropriateness and importance criteria. (For more information, see http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/.)
- Nearly 40% of people with diagnosed and undiagnosed diabetes also have some degree of chronic kidney disease (CKD).
- In patients with type 1 diabetes, intensive glycemic control helps slow the progression of CKD, but it is not clear if intensive glycemic control has the same benefits in patients with type 2 diabetes and CKD.
- Understanding the effectiveness of diabetes control targets and treatment methods used to obtain them in the prevention of CKD in patients with diabetes may help inform patient and providers in the management of the prevention of progression of CKD and end-stage renal disease (ESRD).
- The topic was found to be addressed by a 2012 evidence-based guideline published by the National Kidney Foundation entitled *KDOQI clinical practice guideline for diabetes and CKD: 2012 update*. It centers on management approaches for patients with diabetes and CKD. The report updates the original guideline in specific areas including diabetes control targets and treatment approaches to obtain them. Key questions from this report include:
    - In patients with diabetes (type 1 or 2), with or without CKD, does intensive glycemic control (as defined by lower target glycosylated hemoglobin) improve health outcomes compared to controls?
    - What harms result from more intense glycemic control in individuals with diabetes (type 1 or 2)?